

Table 1

Test Ref.	Al/Cr Ratio in Target	Crystal Structure	Al At%	Cr At%	Film Thickness [ $\mu\text{m}$ ]	HV 0.03	$\cdot AV$ [ $\text{m}^3\text{m}^{-1}\text{N}^{-1}10^{-15}$ ]	Bond
A	3	B1	69.5	30.5	3.2	3100	0.8	HF1
B	3	B4	72	18	4.2	2100	1.0	HF1
C	1	B1	41.5	58.5	3.8	2800	1.5	HF1
D	0.33	B1	19	81	4.1	2300	2.5	HF1

Table 2

Test Ref.	Al/Cr Ratio In Target	$P_{\text{Target}}$ [kW]	$V_{\text{substrate}}$ [V]	$P_{??}$ [Pa]	Temp [°C]
A	3	3	-50	3	450
B	3	3	-50	1	450
C	1	3	-50	3	450
D	0.33	3	-50	3	450

Table 3

Substrate Bias Voltage [V]	$\cdot AV$ [ $\text{m}^3\text{m}^{-1}\text{N}^{-1}10^{-15}$ ]
0	1.23
-20	0.47
-40	0.76
-100	0.83
-150	1.0
-200	1.36

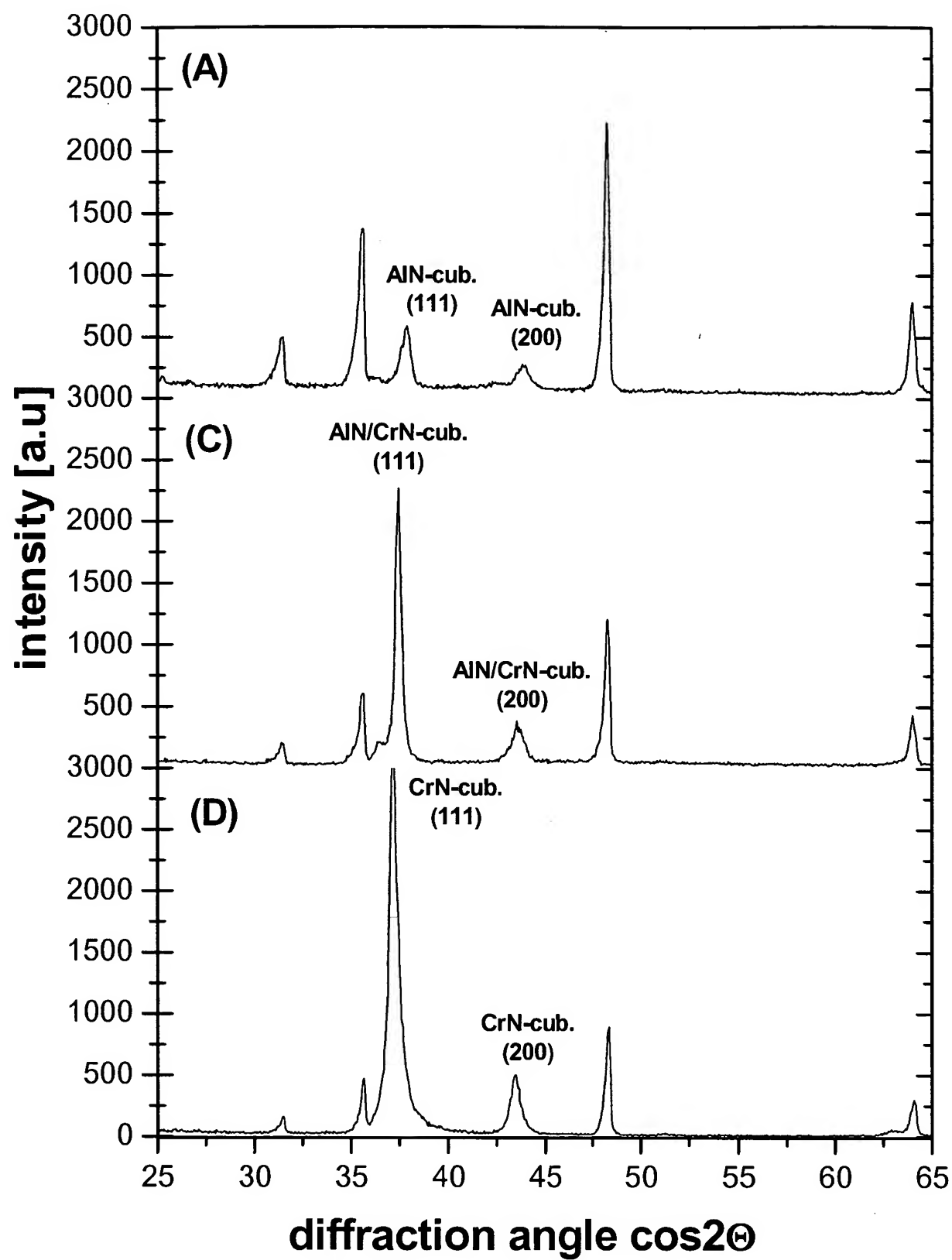


Fig. 2 - X-Axis: diffraction angle  $\cos (2 \theta)$ , unit: degrees

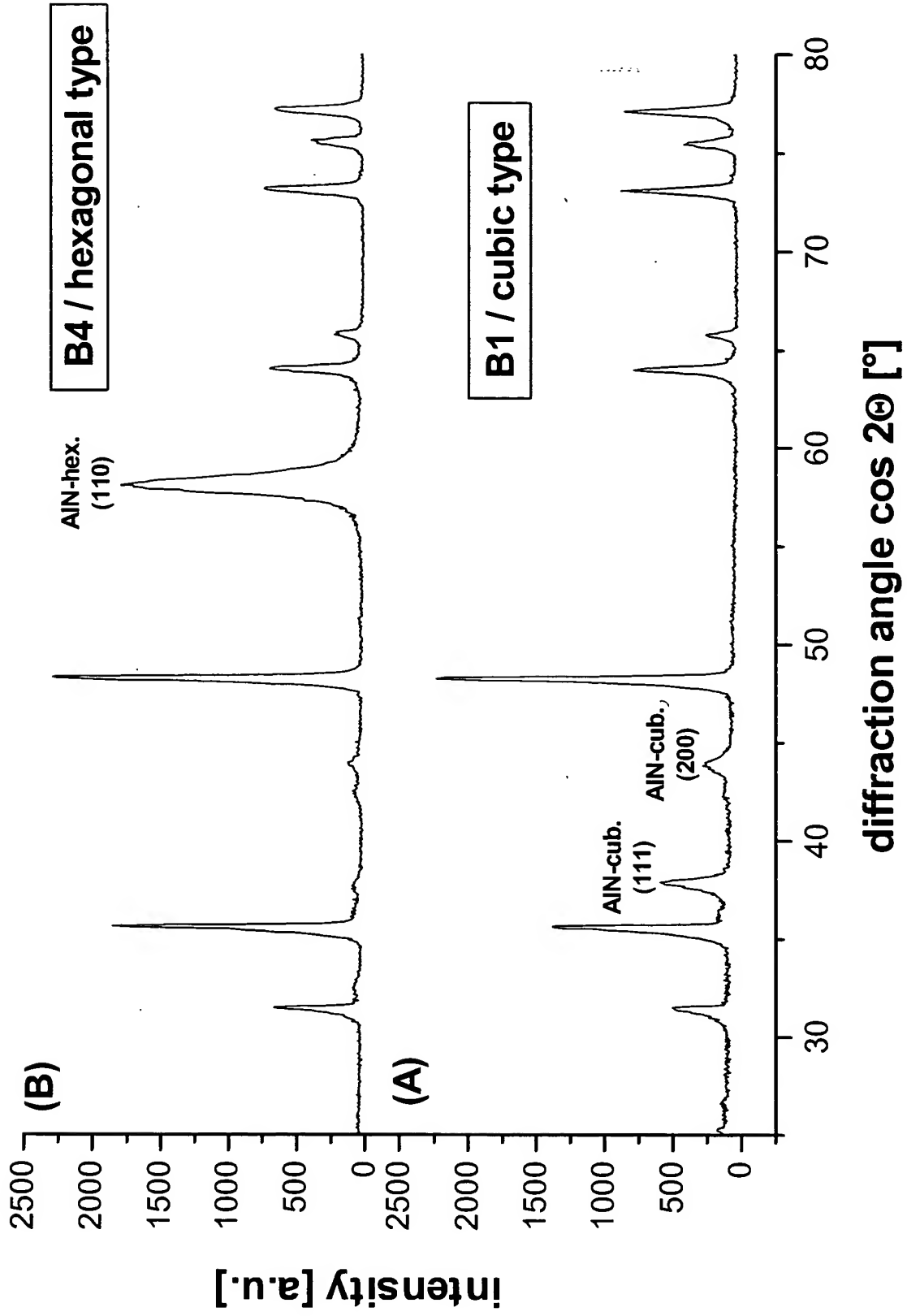


Fig 3.4 . X-Axis: diffraction angle  $2\theta$  (degrees), unit: degrees